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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,726	04/13/2004	Suk Kee Hong	2336-265	2906

7590 10/19/2006

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EXAMINER

WONG, ERIC K

ART UNIT	PAPER NUMBER
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2883

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/822,726	<b>Applicant(s)</b> HONG ET AL.	
	<b>Examiner</b> Eric Wong	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,7-11 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,7-11 and 19 is/are rejected.
- 7) ☒ Claim(s) 13-18 and 20-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims rejected in the prior office action have been considered but are moot in view of the new ground(s) of rejection. However, Examiner kindly explains the reasoning for some of the prior rejections below.
2. Applicant's arguments with respect to claim 1 in regards to structure being “downstream” have been fully considered but they are not persuasive. Applicant kindly asks Examiner how *Lemoff* teaches a lens positioned downstream of a filter. As broadly interpreted, the lens of *Lemoff* is positioned after that of the filter. Therefore, any part after the filter along a propagation path would constitute a location “downstream”.
3. Applicant's arguments with respect to claim 1 on the grounds of movable MEMS devices have been fully considered but they are not persuasive. Applicant argues that the MEMS devices in *Lemoff* fail to move and are outside the optical path. While items 51, 52 and 53 are always outside the optical propagation path, they are control devices which move “shutters” (42). The shutter member does move and is within the optical propagation path.
4. Applicant's arguments with respect to claim 9 on the grounds of a dual collimator have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made below.
5. Applicant's arguments with respect to claim 9 on the grounds of a shutter member have been fully considered but they are not persuasive. The shutter members 42 move as detailed above.

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6. Applicant's arguments with respect to claim 9 on the grounds of a shutter member arranged between a filter and collimator have been fully considered but they are not persuasive. As broadly interpreted, the shutter member is arranged between at least one of multiple filters and collimators.

7. Applicant's arguments filed with respect to claim 11 on the grounds of an air gap have been fully considered but they are not persuasive. Applicant argues an air gap formed in an adhesive member would not be known in the art. Examiner respectfully disagrees. The shutter member operated by control means such as a comb device as taught in *Lemoff*. In order for such a movable shutter to operate movably between positions, it appears to the Examiner that an air gap would inherently be required.

8. Applicant's arguments with respect to claims 13, 15 and 18 on the grounds of a fixing tube have been fully considered and are persuasive. It is noted that fixing tubes to mount components are well known in the art. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made below.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication 20030194174 to Doerr..

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Doerr discloses in figures 3-4 a wavelength division multiplexing (WDM) system comprising:

- A receiving optical fiber having an input end for receiving mixed optical signals (“fiber” on left of figure 3) and an output end (“fiber” on right most side of figure 3);
- A filter arranged downstream from the input optical fiber (the shutter member of Doerr includes a reflective incident surface that selectively filters wavelengths by allowing certain wavelengths to pass and others to be blocked);
- A lens (305-X) positioned downstream from the filter;
- A transmitting optical fiber positioned downstream from said filter and lens;
- A shutter member (315) disposed within a gap along an optical propagation path;

An actuator and control unit for moving the shutter into and out of said gap (paragraph 21 and Doerr claim 7);

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication 20030194174 to Doerr.

Doerr discloses the invention including a reflective surface as claimed except for a thin film filter and photodetector. It is noted that Doerr does not specifically limit the type or materials used for the reflective surface.

Thin film filters are commonly used in the WDM art to reflect or block signals as in the case of the reflective shutter member of Doerr (as in Lemoff). Photodetectors are also very well known to detect an output signal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a well known thin film reflective filter in place of the “reflective surface” of Doerr and to include a photodetector in order to provide for greater accuracy in filtering and reducing errors.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr as applied to claim 1 above, and further in view of United States Patent Application Publication 2003/0063891 to Kim.

Doerr discloses the invention as claimed including micro-mechanical structures, but fails to explicitly disclose the use of a comb drive type MEMS actuator. It is noted that Doerr does not specifically limit the type of actuator used.

Kim teaches the use of a comb drive type actuator (paragraph 16) in order to prevent temperature from influencing operation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a comb drive actuator as taught by Kim for the actuating means of Doerr to reduce errors as a result of temperature.

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14. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr as applied to claim 1 above.

Doerr discloses the invention as claimed except for an actuator being integral to a main board.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the actuator integral to the main board, since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893).

15. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr as applied to claims above, and further in view of United States Patent Application Publication 2003/0063891 to Kim.

Doerr discloses the invention as claimed except for dual/single GRIN lens collimators.

It is respectfully noted that collimators (and GRIN lens type collimators) are well known in the art to properly focus light from single or multiple optical fibers.

Kim further reinforces this well known feature teaching the use of GRIN type collimating lenses to properly focus light to reduce transmission errors.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the use of single and dual collimators to the device of Doerr depending on the type and number of fibers used to reduce optical transmission errors as taught by Kim.

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*Allowable Subject Matter*

16. Claims 13-18 and 20-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art made of record fails to explicitly disclose or reasonably suggest that one of ordinary skill in the art would hold the components as claimed to include a fixing tube or adhesive region having the specifics as claimed.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wong whose telephone number is 571-272-2363. The examiner can normally be reached on Monday through Friday, 830AM - 430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



  
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